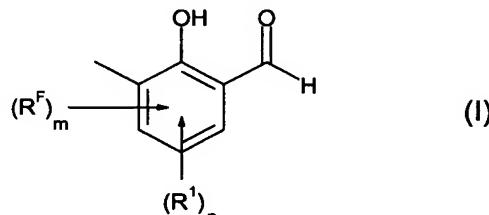


**WHAT IS CLAIMED IS:**

## 1. Process for preparing compounds of the formula (I)



5

where

$R^1$  is in each case independently  $C_1-C_{12}$ -alkyl, chlorine or bromine or a radical of the formulae (IIa) or (IIb)

10

A-B-D-E (IIa)

A-E (IIb)

15

where, each independently,

A is absent or is a  $C_1-C_8$ -alkylene radical and

B is absent or is oxygen, sulphur or  $NR^2$

20

where  $R^2$  is hydrogen or  $C_1-C_8$ -alkyl and

D is a carbonyl group and

25

E is  $C_1-C_8$ -alkyl,  $C_1-C_8$ -alkoxy,  $NH(C_1-C_8$ -alkyl) or  $N(C_1-C_8$ -alkyl) $_2$  or is a cyclic amino radical having 4 to 12 carbon atoms and

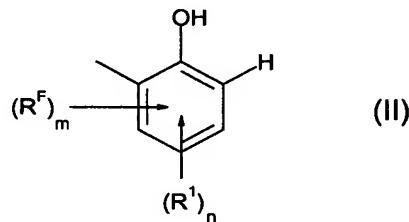
n is an integer of 0 to 3-m and

5 R<sup>F</sup> is fluorine, C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl, -O(C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl) or -S(C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl) and

m is an integer of 1 to 3,

comprising

10 converting compounds of the formula (II)



15 where R<sup>1</sup> and R<sup>F</sup>, and also n and m, are as defined above

in the presence of urotropin and

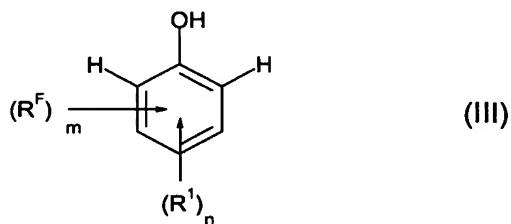
in the presence of acid

20 to compounds of the formula (I).

2. Process according to Claim 1, characterized in that R<sup>1</sup> is in each case independently C<sub>1</sub>-C<sub>4</sub>-alkyl or chlorine.

25 3. Process according to Claim 1, characterized in that n is 0 or 1.

4. Process according to Claim 1, characterized in that  $R^F$  is fluorine,  $C_1$ - $C_4$ -fluoroalkyl,  $-O(C_1$ - $C_4$ -fluoroalkyl) or  $-S(C_1$ - $C_4$ -fluoroalkyl).
5. Process according to Claim 1, characterized in that the molar ratio of urotropin to compounds of the formula (II) is 1:1 to 10:1.
6. Process according to Claim 1, characterized in that the molar ratio of acid to compounds of the formula (II) is 1:1 to 100:1.
- 10 7. Process according to Claim 1, characterized in that the acid used is one which, based on an aqueous reference system at 25°C, has a pK value of 3 or less.
- 15 8. Process according to Claim 1, characterized in that the acids used are perfluoroalkylcarboxylic acids, ortho-phosphoric acid and polyphosphoric acids, organic sulphonics acids, hydrochloric, hydrobromic or hydriodic acid optionally dissolved in acetic acid, hydrogen sulphates or sulphuric acid.
- 20 9. Process according to Claim 1, characterized in that the compounds of the formula (II) are prepared by converting compounds of the formula (III)



where

25

$R^1$ ,  $R^F$  and  $m$  each have the definition specified above and

n is an integer between 0 and 3-m,

a) in the presence of formaldehyde and

in the presence of secondary amines of the formula (IV)

5

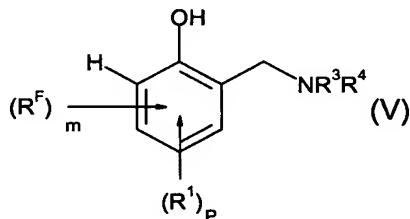


where

10  $\text{R}^3$  and  $\text{R}^4$  are each independently  $\text{C}_1\text{-C}_8$ -alkyl or  $\text{NR}^3\text{R}^4$  as a whole  
is a cyclic amino radical having a total of 4 to 12 carbon  
atoms,

into compounds of the formula (V)

15



where

$\text{R}^1$ ,  $\text{R}^3$ ,  $\text{R}^4$  and  $\text{R}^F$ , and also n and m, each have the definition

20 specified above, and

b) reducing the compounds of the formula (V) to compounds of the formula (II).

25 10. Process according to Claim 9, characterized in that the molar ratio  
in step a) of formaldehyde to compounds of the formula (III) is 0.8  
to 10.

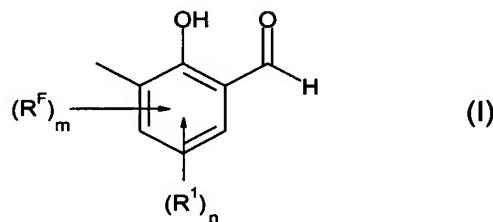
11. Process according to Claim 9, characterized in that the molar ratio in step a) of secondary amines of the formula (IV) to compounds of the formula (III) is 0.8 to 10.

5 12. Process according to Claim 9, characterized in that the reduction of step b) is carried out in the presence of hydrogen and hydrogenation catalysts.

10 13. Process according to Claim 12, characterized in that the hydrogenation catalyst used is a metal or metal compound selected from the group consisting of a salt or complex of nickel, palladium, platinum, cobalt, rhodium, iridium and ruthenium.

15 14. Process according to Claim 12, characterized in that the reduction in step b) is effected at a reaction temperature of 20°C to 200°C and a partial hydrogen pressure of 0.1 to 180 bar.

15. Compounds of the formula (I)



20

where

$R^1$  is in each case independently  $C_1-C_{12}$ -alkyl, chlorine or bromine or a radical of the formulae (IIa) or (IIb)

25

A-B-D-E (IIa)

A-E (IIb)

where, each independently,

5 A is absent or is a C<sub>1</sub>-C<sub>8</sub>-alkylene radical andB is absent or is oxygen, sulphur or NR<sup>2</sup>where R<sup>2</sup> is hydrogen or C<sub>1</sub>-C<sub>8</sub>-alkyl and

10 D is a carbonyl group and

E is C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>8</sub>-alkoxy, NH(C<sub>1</sub>-C<sub>8</sub>-alkyl) or N(C<sub>1</sub>-C<sub>8</sub>-alkyl)<sub>2</sub> or is a cyclic amino radical having 4 to 12 carbon atoms and

15

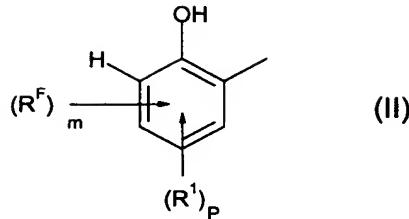
n is an integer of 0 to 3-m and

20 R<sup>F</sup> is fluorine, C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl, -O(C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl) or -S(C<sub>1</sub>-C<sub>12</sub>-fluoroalkyl) and

m is an integer of 1 to 3.

25 16. The compound of formula (I) according to Claim 15 selected from the group consisting of 5-fluoro-2-hydroxy-3-methylbenzaldehyde, 5,6-difluoro-2-hydroxy-3-methylbenzaldehyde and 2-hydroxy-3-methyl-5-(trifluoromethoxy)benzaldehyde.

17. Compounds of the formula (II)



where

5  $R^1$  is in each case independently  $C_1$ - $C_{12}$ -alkyl, chlorine or bromine or a radical of the formulae (IIa) or (IIb)

A-B-D-E (IIa)

A-E (IIb)

10

where, each independently,

A is absent or is a C<sub>1</sub>-C<sub>8</sub>-alkylene radical and

15 B is absent or is oxygen, sulphur or  $\text{NR}^2$

where  $R^2$  is hydrogen or  $C_1-C_8$ -alkyl and

D is a carbonyl group and

20

E is C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>8</sub>-alkoxy, NH(C<sub>1</sub>-C<sub>8</sub>-alkyl) or N(C<sub>1</sub>-C<sub>8</sub>-alkyl)<sub>2</sub> or is a cyclic amino radical having 4 to 12 carbon atoms and

25            n        is an integer of 0 to 3-m and

$R^F$  is fluorine,  $C_1$ - $C_{12}$ -fluoroalkyl,  $-O(C_1$ - $C_{12}$ -fluoroalkyl) or  $-S(C_1$ - $C_{12}$ -fluoroalkyl) and

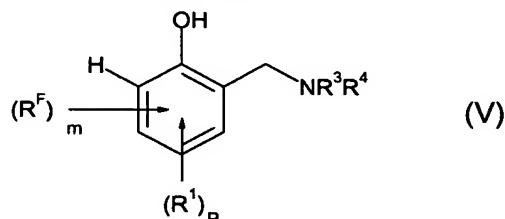
$m$  is an integer of 1 to 3,

5

with the exception of 4-fluoro-2-methylphenol.

18. The compound of formula (II) according to Claim 17 selected from  
10 the group consisting of 4-fluoro-2-methylphenol, 4,5-difluoro-2-  
methylphenol and 2- methyl-4-(trifluoromethoxy)phenol.

19. Compounds of the formula (V)



where

15

$R^1$  is in each case independently  $C_1$ - $C_{12}$ -alkyl, chlorine or  
bromine or a radical of the formulae (IIa) or (IIb)

A-B-D-E (IIa)

20

A-E (IIb)

where, each independently,

25 A is absent or is a  $C_1$ - $C_8$ -alkylene radical and

B is absent or is oxygen, sulphur or  $NR^2$

where  $R^2$  is hydrogen or  $C_1$ - $C_8$ -alkyl and

D is a carbonyl group and

5 E is  $C_1$ - $C_8$ -alkyl,  $C_1$ - $C_8$ -alkoxy,  $NH(C_1$ - $C_8$ -alkyl) or  $N(C_1$ - $C_8$ -alkyl)<sub>2</sub> or is a cyclic amino radical having 4 to 12 carbon atoms and

10 n is an integer of 0 to 3-m and

10 R<sup>F</sup> is fluorine,  $C_1$ - $C_{12}$ -fluoroalkyl, -O( $C_1$ - $C_{12}$ -fluoroalkyl) or -S( $C_1$ - $C_{12}$ -fluoroalkyl) and

15 m is an integer of 1 to 3 and

15 R<sup>3</sup> and R<sup>4</sup> are each independently  $C_1$ - $C_8$ -alkyl or NR<sup>3</sup>R<sup>4</sup> as a whole is a cyclic amino radical having a total of 4 to 12 carbon atoms,

20 with the exception of 5-fluoro-2-hydroxy-N,N-dimethylbenzylamine.

20. The compounds of formula (V) according to Claim 19 selected from the group consisting of 4,5-difluoro-2-hydroxy-N,N-dimethylbenzylamine, 2-hydroxy-5-(trifluoromethoxy)-N,N-dimethylbenzylamine, 25 6-hydroxy-2,3,4-trifluoro-N,N-dimethylbenzylamine and 2-hydroxy-4-(trifluoromethyl)-N,N-dimethylbenzylamine.

21. A process for preparing active ingredients for medicaments comprising providing compounds according to Claim 15.

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22. A process for treating cardiovascular disorders and diseases comprising administering medicaments containing active ingredients based on compounds of Claim 15 to subjects in need thereof.